

## REMARKS

Claims 1-11 and 15-17 are pending in the instant application. Claims 1-11 presently stand rejected. Claims 12-14 are hereby cancelled without prejudice. Claims 15-17 are newly presented. Entry of this amendment and reconsideration of the pending claims are respectfully requested.

### *Information Disclosure Statement*

Applicants submitted an Information Disclosure Statement and a Disclosure Citation Form PTO-1449 citing 11 references on January 6, 2005. Applicants kindly request that a copy of the 1449 form be returned with the Examiner's initials thereon indicating consideration of the cited art.

### *Claim Rejections – 35 U.S.C. § 103*

#### Claims 1-11

Claims 1-3 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Scalora et al. (US 6,343,167 B1) in view of Hane et al. (US 5,801,378). Applicants respectfully traverse the rejections.

“To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. All words in a claim must be considered in judging the patentability of that claim against the prior art.” M.P.E.P. § 2143.03.

Independent claim 1 recites, in pertinent part, “... integrated circuit including: a substrate, and a plurality of regions formed in the substrate ...” Applicants respectfully submit that the cited prior art fails to disclose, teach, or suggest an **integrated circuit** including the grating as recited in claim 1.

The Examiner acknowledges that “Scalora does not disclose the integrated circuit including a substrate and a plurality of regions formed in the substrate.” *Office Action* mailed January 19, 2005, page 2, section 2. However, the Examiner relies on Hane for this missing element stating, “Hane teaches in Figure 3, an integrated circuit (32) including: a substrate (38); and a plurality of regions (36 or transparent regions) formed in the substrate...” *Id.*

However, Applicants respectfully disagree with the Examiner's view that diffraction grating 32 (the element cited by the Examiner as corresponding to the claimed integrated circuit) discloses, teaches, or suggests an integrated circuit. The term integrated circuit necessary implies two or more electronic components within a material (for example two or more transistors within a substrate). Merriam-Webster's Online Dictionary recites the definition of an integrated circuit as "a tiny complex of electronic components and their connections that is produced in or on a small slice of material." Hane clearly fails to disclose diffraction grating 32 as including two or more electronic components integrated therein. Hane simply does not teach or suggest a grating as recited in claim included within an integrated circuit. Rather, Hane clearly illustrates diffraction gratings 32 and 22 as distinct isolated elements.

Consequently, the combination of Scalora and Hane fails to teach or suggest all elements of claim 1, as required under M.P.E.P. § 2143.03. Accordingly, Applicants request that the instant §103(a) rejections of claim 1 be withdrawn.

Dependent claims 2-11 are nonobvious over the prior art of record for at least the same reasons as discussed above in connection with their respective independent claims, in addition to adding further limitations of their own. Accordingly, Applicants respectfully request that the instant § 103 rejections for claims 2-11 be withdrawn.

#### Claims 12-14

The rejections of claims 12-14 are now moot, since these claims have been cancelled without prejudice.

#### New Claims 15-17

New independent claim 15 recites, in pertinent parts,

propagating an optical signal through a Xth region of a plurality of regions formed in a substrate, the plurality of regions having refractive indices different from that of the substrate, each of the plurality of regions separated by intervening areas of the substrate to form a grating ...

propagating the optical signal through a Yth intervening area of the intervening areas of the substrate...

Applicants submit that the cited prior art fails to disclose, teach, or suggest the above elements. Independent claim 15 recites "each of the plurality of regions separated

by intervening areas of the substrate to form a grating...” Claim 15 further recites that an optical signal propagates through one of the plurality of regions and one of the intervening areas of the substrate.

Referring to FIG. 3 of Hane, a diffraction grating 32 is illustrated having transparent portions 36 and non-transparent portions 38. Hane discloses that diffraction grating 32 is an alternative embodiment to replace diffraction grating 22 in FIG. 1 (see *Hane*, col. 8, lines 4-8). The system illustrated in FIG. 1 is disclosed as operating as follows. Light is emitted from a light source, passes through grating 20, through the slits in grating 22 (i.e., transparent portions 36 of grating 32 in FIG. 3) to form an interference pattern and is received at light receiving unit 24. *Hane*, col. 5, lines 55-64.

However, at no time does Hane disclose propagating an optical signal through BOTH transparent portions 36 (cited by Examiner as corresponding to the “plurality of regions”) AND non-transparent portions 38 (cited by the Examiner as corresponding to the “intervening areas of the substrate”). In fact, Hane cannot possibly disclose or teach propagating an optical signal through both the transparent and non-transparent portions, since by definition a “non-transparent” portion does not propagate light and therefore cannot have an optical signal propagating through it.

Accordingly, newly presented claims 15-17 are novel and nonobvious over the cited prior art.

#### *Statement of Common Ownership*

The present patent application and Patent No. 6,075,908 to Paniccia et al, were, at the time the invention of the present application was made, owned by or subject to an obligation of assignment to Intel Corporation of Santa Clara, California.

“Subject matter developed by another person, which qualifies as prior art only under one or more of subsection (e), (f), and (g) of section 102 of this title, **shall not preclude patentability under this section** where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.” 35 U.S.C. § 103(c) (emphasis added).

Therefore, pursuant to 35 U.S.C. § 103(c), Paniccia cannot be relied upon to preclude patentability under § 103(a). Accordingly, Applicants respectfully request that the instant rejection of claim 5, based in part on Paniccia under 103(a), be withdrawn.

### CONCLUSION

In view of the foregoing amendments and remarks, Applicants believe the applicable rejections have been overcome and all claims remaining in the application are presently in condition for allowance. Accordingly, favorable consideration and a Notice of Allowance are earnestly solicited. The Examiner is invited to telephone the undersigned representative at (206) 292-8600 if the Examiner believes that an interview might be useful for any reason.


### CHARGE DEPOSIT ACCOUNT

It is not believed that extensions of time are required beyond those that may otherwise be provided for in documents accompanying this paper. However, if additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a). Any fees required therefore are hereby authorized to be charged to Deposit Account No. 02-2666. Please credit any overpayment to the same deposit account.

Respectfully submitted,

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